UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/934,776	08/21/2001	Kristen A. McIntyre	0007056-0117/P5598	8589

			EXAMINER
24209	7590	10/01/2004	CHEN, WENPENG

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ART UNIT	PAPER NUMBER
2624	

DATE MAILED: 10/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2.   Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Borella (US patent 6,442,603) in view of Kunitake et al. (US patent 5,991,458.)

Borella teaches a method and apparatus for a bandwidth adaptive image compression/decompression scheme comprising:

-- using a protocol between sender and receiver wherein said protocol calculates bandwidth latency of the connection; (Fig. 2; column 4, lines 25-38)

-- choosing a compression scheme based on the results of said protocol; (column 6, line 57 to column 8, line 12)

-- transmitting the most interesting data first; (column 7, line 19 to column 8, line 12)

-- discarding repetitious data; (column 6, line 34 to column 7, line 4; column 7, line 19 to column 8, line 12; In a MPEG coding, there are P and B frames. For P and B frames, only difference data between frames are sent. The repetitious, similar data are not coded and discarded. In a different interpretation, the high order layer of a pyramid is considered as repetitious data of its lower order layer because they represent data at the same locations.)

-- listing the perceptual degradation of said image for various compression

schemes; (Table 1; In the right column of Table 1, the lower entry has higher perceptual

degradation because less data are transmitted to the receiving side.)

-- wherein said step of using a protocol is done periodically; (column 6, lines 5-

21; The latency is continuously monitored. Therefore the protocol is done periodically.)

-- wherein said step of using a protocol is based on a dynamic feedback loop;

(column 6, lines 5-21; The determination of round trip time is a feedback process.)

-- wherein said compression scheme is lossy for a sub-band coded progressive

strategy; (column 7, lines 33-46; The coding of an image to a pyramid format is a sub-

band coded progressive strategy.)

-- wherein said compression scheme is lossless for a non sub-band coded

progressive strategy; (column 7, line 53-57)

-- wherein said step of choosing a compression scheme depends on the latency of

the connection; (column 6, line 35 to column 7, line 8; steps 26 and 28 of Fig. 2)

-- wherein said step of choosing a compression scheme depends on the amount

and type of said data to be transmitted; (column 9, lines 13-55; Table 2; Figs 3-5)

-- wherein said step of choosing a compression scheme depends on said scheme

that uses CPU time conservatively; (column 3, line 58 to column 4, line 11; column 5,

line 52 to column 6, line 4; When a small portion is sent for determining latency, it tests

the CPU of the receiver. Thus a compression scheme selected based on the latency is a

scheme that uses CPU time of the receiving side conservatively.)

-- wherein said step of choosing a compression scheme depends on the average

decay of latency of said connection; (column 6, lines 5-15)

-- wherein said step of transmitting is decided by a wavelet transform scheme;
(column 7, lines 33-46; The coding of an image to a pyramid format is a wavelet
transform scheme.)

-- wherein said step of discarding is done when said connection is down for a
short period of time. (When a connection is down, all the data are lost and thus
discarded.)

However, Borella does not teach the feature of " calculating the perceptual
degradation of said image for various compression schemes."

Kunitake teaches a method comprising:

-- calculating the perceptual degradation of said image for various compression
schemes. (Figs. 4-7; column 18, line 25 to column 19, line 58; Fig. 7 summaries the
image quality that inherently indicates perceptual degradation between two encoded
image data.)

It is desirable to provide a quality of decoded image as better as possible. It would
have been obvious to one of ordinary skill in the art, at the time of the invention, to
include Kunitake's dynamic coding method shown in Figs. 4-7 to compress Borella's
image data based on detected latency of the connection, because the combination
improves better dynamic compression. Obviously the combination also teaches:

-- wherein said step of calculating is supplemented with the results of said
protocol.

3.   Claims 13-23 are rejected under 35 U.S.C. 103(a) as being unpatentable
over Borella (US patent 6,442,603) in view of Kunitake et al. (US patent 5,991,458) as
discussed above, and further in view of Pearlman et al. (US patent 5,764,807.)

The combination of Borella in view of Kunitake, as discussed above, teaches the corresponding method claims 1-12. For Claims 13-23, Borella further teaches a CPU and a memory that perform the above-discussed methods. (column 3, lines 58-66) Inherently, the CPU has the recited computer program.

However, the combination does not explicitly teach a computer program *product* as recited in the claims.

Pearlman teaches a computer program product comprising a computer readable medium and a computer program. (Column 2, lines 47-53)

It is desirable to make a processing method portable from a computer to another computer. It would have been obvious to one of ordinary skill in the art, at the time of the invention, to store the processing steps of the method taught by Hirano in view of Borella in view of Kunitake in a computer readable medium taught by Pearlman, because the combination makes the processing method portable and therefore increase its application.

Conclusion

4.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wenpeng Chen whose telephone number is 703 306-2796. The examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K Moore can be reached on 703 308-7452. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for
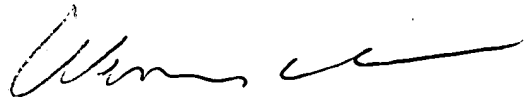
regular communications and 703-872-9306 for After Final communications. TC 2600's

customer service number is 703-306-0377.

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the receptionist whose telephone number is 703 305-

4700.

Wenpeng Chen
Primary Examiner
Art Unit 2624

September 24, 2004